EN

Case No COMP/M.1681 - AKZO NOBEL / HOECHST ROUSSEL VET

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REGULATION (EEC) No 4064/89
MERGER PROCEDURE

Article 6(1)(b) NON-OPPOSITION
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COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, **22.11.1999**

In the published version of this decision, some information has been omitted pursuant to Article 17(2) of Council Regulation (EEC) No 4064/89 concerning non-disclosure of business secrets and other confidential information. The omissions are shown thus […]. Where possible the information omitted has been replaced by ranges of figures or a general description.

PUBLIC VERSION

MERGER PROCEDURE
ARTICLE 6(1)(b) DECISION

To the notifying party

Dear Sirs,

Subject: Case No IV/M. 1681 Akzo Nobel / Hoechst Roussel Vet
Notification of 06.10.1999 pursuant to Article 4 of Council Regulation No 4064/89

1. On 17.09.1999**,** the Commission received a notification of a proposed concentration pursuant to Article 4 of Council Regulation (EEC) No 4064/89 by which Akzo Nobel N.V. ("Akzo Nobel") will acquire within the meaning of Article 3(1)(b) of the Council Regulation control of the whole of Hoechst AG's ("Hoechst") animal health business, including its business unit Hoechst Roussel Vet GmbH ("HRVet").

2. On 30.09.1999 the notification was declared incomplete as the notifying parties failed to submit information concerning certain conglomerate markets. The parties provided the requested documents on 6 October 1999. Consequently, the notification was declared complete on 06.10.1999 and became effective on 07.10.1999.

3. With their renotification, the parties submitted undertakings designed to eliminate the competition concerns identified by the Commission during the first part of the investigation, in accordance with Article 6(2) of the ECMR. In the light of these modifications, the Commission has concluded that the notified operation falls within the scope of Council Regulation (EEC) No 4064/89 as amended and does not raise serious doubts as to its compatibility with the common market and with the functioning of the EEA Agreement.

I. THE PARTIES' ACTIVITIES AND THE OPERATION

The parties and their activities

4. Akzo Nobel is the holding company of the Dutch Akzo Nobel Group. It is active in the areas of human and healthcare products, coatings, fibres and chemicals. Intervet International B.V. ("Intervet") is its animal health business unit active in the research, development, manufacture and sale of animal health products. Its product range

comprises biologicals and pharmaceutical products for use in farm animals, fish and pets. Intervet realises [55-65] % of its activities in Western Europe. Akzo Nobel also has an interest in CRINA ("Centre de Recherches International de Nutrition et Alimentation"), specialised in the development of nutritional feed additives based on essential oils.

5. Hoechst Roussel Vet ("HRVet") is Hoechst' subsidiary active in the animal health business and by divesting it, Hoechst is complying with one of the undertakings given to the European Commission in the merger control procedure concerning the concentration between Hoechst and Rhône-Poulenc S.A. creating Aventis. HRVet's product range consists of biologicals, pharmaceuticals and feed additives. HRVet realises [35-45] % of its activities in Western Europe.

The operation

6. On 11 August 1999, Akzo Nobel, through its wholly-owned subsidiaries, Intervet International BV and Intervet GmbH, agreed to acquire the shares and assets in the Hoechst Roussel Vet Group, held by Hoechst and its wholly-owned subsidiary, Hoechst Roussel Vet Participations S.A. The transaction is effected by way of a purchase agreement. The shareholding, which will be indirectly held by Akzo Nobel, will give it sole control over HRVet and the various companies owned/controlled by HRVet. These include Dr.Bommeli AG (Switzerland) and Tri Bio Laboratoires (USA).

III. CONCENTRATION

7. The operation is therefore a concentration since the operations described above will result in an acquisition of sole control by Akzo Nobel of HRVet.

IV. COMMUNITY DIMENSION

8. Akzo Nobel and HRVet had a combined aggregate worldwide turnover in excess of EUR 5,000 million in 1998 [1] (Akzo Nobel, EUR 12,392 million; and HRVet, EUR 444.5 million). The combined aggregate turnover of Akzo Nobel and HRVet exceeds EUR 100 million in Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Spain, Sweden, the Netherlands and the United Kingdom. Each of them had a turnover in excess of EUR 25 million in 1998 in France, Germany and the United Kingdom. But they do not achieve more than two-thirds of their aggregate Community-wide turnover within one and the same Member State. The notified operation therefore has a Community dimension.

V. COMPETITIVE ASSESSMENT

9. In 1997, the five major animal health companies were Merial (the joint venture between Merck and Rhône Mérieux), Pfizer, Bayer, American Home Products (through its animal health division Fort Dodge) and Schering-Plough. Together they accounted for over half of the world-wide sales of animal health products. Several of the larger

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[1] Turnover calculated in accordance with Article 5(1) of the Merger Regulation and the Commission Notice on the calculation of turnover (OJ C66, 2.3.1998, p25). To the extent that figures include turnover for the period before 1.1.1999, they are calculated on the basis of average ECU exchange rates and translated into EUR on a one-for-one basis.

companies producing pharmaceuticals for human use are also involved in the production of therapeutic products for veterinary use. The operation will lead to the creation of the fourth largest entity in the world-wide veterinary products sector. The merged entity will be number six for veterinary pharmaceuticals and the second for biologicals on a world-wide basis.

10. Through the notified transaction, Akzo Nobel seeks to obtain a more balanced product range and geographic spread. Intervet has its main sales in the biologicals sector ([60-70] %) and the remainder in the pharmaceutical sector ([30-40] %). HRVet on the other hand has limited sales in the biologicals sector ([10-20] %) and is particularly strong in the pharmaceuticals sector ([60-70] %). In addition, HRVet also has activities in the medicinal feed additives sector ([15-25] %). The parties' activities are largely complementary. Around [0-5] % of their activities are overlapping activities.

11. The economic sector involved in the transaction is the production, distribution and sale of animal healthcare products. Animal health products can be divided into three core areas, namely (i) medicinal food additives, (ii) biologicals and (iii) pharmaceuticals. In addition, there are two further product categories, considered to be part of animal health in the widest sense : (i) nutritional feed additives and (ii) hygiene products.

12. The parties only have overlapping activities in the sectors for veterinary pharmaceuticals and biologicals.

A. Pharmaceuticals

1. Relevant product markets

13. This segment is the largest one among animal health products. It comprises a wide variety of active ingredients for the prevention or treatment of a large range of infectious diseases, parasitical infestations, endocrine disorders, metabolic diseases, inflammatory symptoms, etc. Pharmaceuticals for animal usage can be divided into parasiticides, antimicrobials, endocrine treatments, anti-inflammation and analgesic pharmaceuticals, performance enhancers and others. The market test has confirmed that this segmentation is generally used by the Animal Health Industry and consultants (e.g. Wood Mackenzie).

14. The parties state that demand-side substituability of veterinary pharmaceuticals is determined by the disease treatment indication (medicines that treat different diseases in the same type of animal are in general not substitutable), the route of administration, the animal species indication, the active substance included, the stage in an animal's reproductive cycle, the synthetic or natural characteristic of hormones. This view has been largely confirmed by the market test. It must be precised that the segmentation of the market cannot always be based on the combination of all these criteria simultaneously since for some product groups, this would not make sense technically, scientifically speaking.

15. Both parties are only active in antimicrobials and endocrine treatments.

Antimicrobials

16. Antimicrobials pharmaceuticals include antibacterials and antibiotics. They are used both for food animals and for pets to treat diseases of bacterial, mycoplasmal or fungal

origin. The antimicrobials sector consists of a large number of products, that differ mainly in route of administration (injection, oral administration, topical application on the skin or in the ear, eye, udder or uterus) and in active ingredient (specific chemical molecule or group of antibiotic drugs).

17. First, antimicrobials are generally divided into various subcategories of products depending on the route of administration : injectable products, products for oral administration and products for topical administration (such as mastitis and endometritis treatments). This view has been largely confirmed by the market test.

18. Among the products for topical administration, mastitis treatments are administered to eliminate the bacteria inside the udder of a cow causing an acute or chronic inflammation of the udder. The infection is treated by using anti-infective compounds to kill the bacteria which cause the disease. Mastitis treatments are administered through a specific injector tube that is inserted in the teat canal and emptied into the udder. There are two different types of mastitis infection:

    - Acute mastitis, which most commonly occurs during the lactation period, the period during which the cow is milked (average 305 days per year). Acute mastitis is often diagnosed by the presence of visually abnormal milk, reduced milk production and a clinically sick animal. The treatment of acute cases requires daily repeated administration of quick and short acting therapeutic formulations (lactating cow products).

    - Sub-clinical mastitis, which corresponds to chronic udder infections. Chronic udder infections are less clearly noticed than acute mastitis and merely cause an increased number of white blood cells in the milk, without any obvious clinical symptoms. Sub-clinical mastitis is treated during the remaining 60 days of the year with routine preventive (single) administration of one injector at the start of the dry period. The treatments used for this purpose, commonly referred as “dry cow products”, are characterised by a typical slow release pattern and differ completely in their chemical composition from the above-defined lactating products. The sector of mastitis treatment can thus be further divided in two markets of lactating products and dry cow products.

19. Second, within each of the above referred group of antimicrobials products, and consequently within mastitis products, products differ according to the active substance used. The parties state that the main categories for these active substances are sulphanomides, penicillins, cephalosporins, tetracyclines and macrolides. The market test has shown that quinolones, aminoglycosides, phenicals and fluoroquinolones should be included too, even if there is no overlap between the parties in the antimicrobials markets based on these active substances. The parties state that the active substance differ in their bacteriostatic/bactericidal characteristic, in their low/high cost, in their common/not common resistance level and their wide/narrow spectrum of activity and that each active substance used leads to the definition of a respective separate market. The market test has largely confirmed this view.

20. The segmentation based on the active substance included can be applied to both lactating and dry cow products respectively. Indeed, in order to treat mastitis properly a sample is taken from the cow and sent to a laboratory for examination in order to determine which bacteria are present and which anti-infective compound would be effective in combating the bacteria. The market test has largely confirmed this view.

21. Products based on different anti-infective compounds are not demand-side substitutable and the active substance used appears therefore to be the relevant criterion to define the relevant markets of dry cow products and lactating products respectively.

Endocrine treatments

22. Endocrine treatments are used to regulate the animal's fertility process. They include various types of hormones, delineating the following separate products groups:

- Gonadotrophin Releasing Hormones (GnRH) is a hormone that stimulates the secretion of the treated animal's natural reproductive hormones. GnRH-containing products are used for a variety of animal species to specifically treat some forms of infertility or to regulate out-of-balance endocrine reproductive processes. The most important species for GnRH products is cattle, but they are also used for horses, dogs and rabbits. A different type of GnRH product with different technical and chemical characteristics is applied to every species.

- Prostaglandin is a hormone that has an effect on the luteal tissue in the ovaries. This hormone is mainly used in oestrus synchronisation programmes in cattle. Other indications are abortion-and-parturition-induction and the treatment of endometritis (inflammation of the uterus).

- Gonadotrophins are hormones used to stimulate ovarian activity and are used mainly in oestrus synchronisation and oestrus induction programmes.

- Progestagens are used in oestrus synchronisation and induction programmes, sometimes in combination with gonadotrophins.

23. The type of hormone used is directly related to the synthetic or natural character of the products because there are natural and synthetic hormones. In the present case, the application of this criterion would lead to a segmentation into natural and synthetic products in GnRH, Prostaglandins and Progestagens, but not in Gonadotrophins because they are all natural.

24. The species treated is a criterion, which has to be applied for Gonadotrophins because the Gonadotrophins products used for each species are different. This is not the case for the other hormone categories because the same products can be applied to different species. GnRH is mainly applied to cattle but the same product can be applied to other species, while Prostaglandins and Progestagens can be applied for cattles and sheeps.

25. The indication is also a criterion, which has to be taken in account in some cases because it can lead to the combination of several endocrine treatments. For example, the indication of fertility treatment can request Gonadotrophins and GnRH simulteanously.

2. Relevant geographic market(s)

26. The notifying party is of the opinion that animal health markets are becoming more open to intra-Community competition, as a result of measures aimed at harmonizing national laws, the introduction of a standardised Community registration procedure and the creation of a European Medical Evaluation Agency. This trend has been recognised by the Commission in the IV/M. 737 *Ciba-Geigy-Sandoz* decision.

27. However, the sale of animal health products is still influenced by administrative procedures with different national registrations and approval requirements. Competitor's market shares, prices of competing products and distribution systems differ widely between Member States. These differences apply to animal health pharmaceuticals and lead to national market characteristics. Consequently, the geographical markets for animal health pharmaceuticals affected by the concentration will be considered as national.

3. Assessment

28. Both parties supply a wide range of veterinary pharmaceutical products in various Member States for use in food producing animals. Products which are authorized for food producing animals have to be residual-evaluated according to Regulation 2377/90. Residual evaluations require costly toxicological studies. There is an increasing pressure to enforce protection of the data contained in these studies. If this protection is eventually granted smaller suppliers, in particular generic suppliers active only in a limited number of Member States, will face difficulties to stay in the market.

29. In mastitis treatments, the market for dry cow products based on cephalosporins is an affected market in France. In endocrine treatments, the synthetic prostaglandins market is an affected market in France, Germany, Spain, Portugal and Austria, and the gonadotrophins markets are an affected market in Spain.

Mastitis Treatment

30. In accordance with the above market definition for pharmaceuticals presented by the parties, the only product market on which the parties have currently overlapping activities is the market for dry cow products based on cephalosporins. HRVet's product range includes one cephalosporin-based product for dry-cow treatment named Cepravin, distributed on the basis of an exclusive distribution agreement with Schering-Plough. This agreement is limited to the French territory as well as a number of French Overseas Territories and Departements. Intervet's product range includes one cephalosporin-based product used for dry-cow mastitis treatment, named Cefa-Safe. In France, the combined market share of the parties after the operation will be around [85-95] % in that market, Intervet having a share of [0-5] % of the market. The only other competitor is Virbac (with its product Rilexine), with around [0-10] % of the market. The parties argue that the addition of market shares is insignificant and that Merial is expected to enter this market in France very soon. However, the market share of HRVet raised up from [65-75] % in 1997 to [85-95] % in 1998 on this market in France and the operation eliminates a potential competitor since Intervet's product was launched in France in 1995 and had increased its market share from [0-5] to [0-5] % between 1997 and 1998. Consequently, serious doubts within the meaning of Article 6(1)(c) of the Merger regulation exist with regard to this market.

31. The position of the parties in the market for lactating cow products based on cephalosporin may also raise competition concerns. HRVet is currently active on this market in several Member States with its product Cobactan/Cephaguard LC (Austria [40-50] %, Belgium [25-35] %, Denmark [15-25] %, France [20-30] %, Germany [20-30] %, Italy [15-25] %, Spain [15-25] %, Netherlands [35-45] % and United Kingdom [20-30] %). Competition concern could arise from the fact that Intervet, which is currently not active on this market, will nevertheless introduce [*Deleted for publication ; Carasteristics of the new product launched by Intervet*]. There is considerable

uncertainty whether the new product developed by Intervet will be a success in the market. Moreover, strong internationally active competitors including Pfizer, Merial, Virbac and Schering-Plough all have a product on the market. Consequently, this market seems unlikely to raise competition concerns.

32. Furthermore, competition concerns could also arise with regard to possible range effects in mastitis treatment in France. Intervet holds [70-80] % of the market in lactating cow products combining the two active substances tetracyclin and prenidsolone in France. HRVet's cephalosporin-based product for dry-cow treatment named Cepravin has a market share of [85-95] % in France. The fact that the parties hold strong positions in the field for mastitis treatment could have led to a portfolio or range effect in the sense that veterinarians may be induced (e.g. rebates related to total purchases) to buy all their drugs for such treatments from the parties. It was submitted by third parties to the Commission that veterinarian doctors usually tend to buy all products for lactating and dry cow together. However, one argument against this application of the range effect theory is that 99 % of all mastitis products are sold through wholesalers in France who have regulatory obligation to have all the products of all suppliers available for their customers. Furthermore, the notifying parties state that lactation treatments are only used when a cow has subclinical mastitis during its lactation period and if the mastitis is fully cured, no additional treatment is necessary. In conclusion, no portfolio effect between dry cow and lactating cow products has been confirmed following the investigation of the Commission and the operation does not give rise to competition concerns in this respect.

Endocrine treatment

33. In accordance with the market definition submitted by the parties, the product markets on which both parties have overlapping activities are the markets for synthetic prostaglandins and gonadotrophins. The market test has shown that the market for gonadotrophins described by the parties should in fact be further segmented according to criteria like the kind of specie treated or the indication. In this case, the parties would have overlapping activities in gonadotrophin treatments in cattle and gonadotrophins treatments for oestrus induction in pigs.

34. On the French market for synthetic prostaglandins, HRVet has a market share of [5-15] % and Intervet has a market share of [5-15] % in 1998. The main competitor in France is Schering-Plough with [50-60] %. Sanofi has a market share of [5-15] %. The operation does not give rise to competition concerns because the aggregated market share of the parties remains below [20-30] % and they will face strong competitors at a national level. Nor will the operation lead to collective dominance, even if the three largest companies active in this market will have an aggregated market share of more than [70-80] %. The respective market shares of these companies are indeed not static but rather fluctuate and are asymmetric. For example, the parties' aggregated market share changed from [5-15]% in 1996 to [15-25] % in 1998, while Schering-Plough increased its market share from [35-45] % in 1996 to [50-60] % in 1998. In the same period of time, Sanofi's market share dropped from [10-20] % to [5-15] %.

35. On the German market for synthetic prostaglandins, Intervet has a market share of [15-25] % while HRVet has a market share of [10-20] % in 1998. The main competitor in Germany is Essex, a Schering-Plough subsidiary with a [20-30] % share of the market. The new entity will also face the competition of Animedica Rheinland ([0-10]%) and Lohmann Animal Health ([0-10] %). Market shares are fluctuating for the three main

competitors between 1996 and 1998 (Intervet : [15-25]- [15-25]- [15-25]%, HRVet: [15-25]- [15-25]- [10-20] % and Schering-Plough: [25-35]- [20-30]- [20-30] %). Considering the number of competitors and the asymmetry in market shares, the operation does not give rise to competition concerns.

36. On the Spanish market for synthetic prostaglandins, Intervet has a market share of [20-30] % while HRVet has a market share of [0-5] % in 1998. Schering-Plough and Sanofi are both active on this market with market shares of [60-70] % and [0-10] % respectively. Calier, a Spanish company, is also a player in this market with a [0-10] % market share. The operation will thus leave the market position almost unchanged because of the small increment of market share. Furthermore the new entity will face strong competitors. Therefore the operation does not give rise to competition concerns.

37. On the Portuguese market for synthetic prostaglandins, Intervet has a market share of [5-15] % while HRVet has a market share of [10-20] % in 1998. Schering-Plough ([25-35] %) and Sanofi ([25-35] %) remain both market leaders, and two Portuguese generic producers, Vetem ([5-15] %) and Univet ([0-5] %) are also active. However, as explained above (par.28), competition from nationally active generic suppliers is likely to decrease. The operation does not give rise to competition concerns regarding single dominance because the parties, with an aggregated market share below [25-35] %, will face strong competitors at the national level. Concerning collective dominance, the three largest companies active in this market will have an aggregated market share of almost [85-95] %. The respective market shares of the new entity and its two main competitors Schering-Plough and Sanofi would be quite the same and show a similar increase between between 1996 and 1998, even if Intervet has lost market shares from [10-20] to [5-15] % meanwhile. The aggregated market shares of the parties and the market shares of Schering-Plough and Sanofi have respectively increased from [20-30], [20-30] and [10-20] % to [25-35], [25-35] and [25-35] %.

    The parties state that future coordination is unlikely since this would not be in the interest of either of the rapidly expanding competitors, Sanofi and Schering-Plough. However, after the operation, the top three players would have equal market shares amounting to almost [85-95] % of the market. Therefore, there is not much room left for further expansion without harming the competitive position of one of the three top suppliers. In addition, there is substantial overcapacity in the manufacturing facilities of these three players in relation to prostaglandins, which could be used as a means of retaliation. Moreover, there is a structural link which could be relevant for the assessment of collective dominance in this market, [*Deleted for publication ; description of the structural link*]. Therefore, serious doubts arise in this market.

38. On the Austrian market for synthetic prostaglandins, HRVet has a market share of [20-30] % and Intervet has a market share of [0-10] % in 1998. The new entity will face the competition of the market leader, Schering Plough with [60-70] % of the market. The market shares of the three main players have been fluctuating between 1996 and 1998 (Intervet : [0-5]-[0-5]-[0-10] % ; HRVet : [10-20]-[20-30]-[20-30] % and Schering-Plough [75-85]-[65-75]-[60-70] %) and are now assymmetric. Therefore problems of joint dominance are excluded and the operation will thus not give rise to competition concerns.

39. On the Spanish market for Gonadotrophins, Intervet has a market share of [60-70] % and HRVet's market share amounts to [10-20] % through its subsidiary Veterin in 1998. The merged entity's market share amounts to [80-90] %. Sanofi (around [5-15]

%) and Ovejero, a Spanish company (less than [0-5] %), account for the remaining sales. If Gonadotrophin for pigs and cattle were separate markets within the overall Gonadotrophin market the parties would still have combined market shares of more than [70-80]% and [35-45]% respectively. The operation will thus reinforce a single dominant position in a market where the sales do not increase (estimated market size : € [*Deleted for publication*]) and where Intervet's market shares have raised up from [45-55] % in 1996 to [60-70] % in 1998. Consequently, the operation raises serious doubts as to its compatibility with the common market in this market .

40. Furthermore, competition concern could also arise with regard to possible range effects in that field because both parties hold strong positions in several national markets for different endocrine treatments. There is no overlap between these products because they belong to different product markets (see points 22 to 25) . However the market test has shown that some of them might be used as a combination for certain indications or might be bought together by the veterinarians to be used one after the other in a treatment process. In several markets including France and Germany in particular, the Intervet product PG 600 (hCG plus PMSG) for oestrus induction in adult sows is virtually a unique product required by veterinarians. Hoechst has a product REGUMATE used for the induction of oestrus in young sows which is similarly unique and complementary to Intervet's PG 600. These two products would form a very strong combination and represent must products for veterinarians practising in the swine reproductive segment. The merged undertaking would be placed in a very strong bargaining position compared with other competitors. A similar situation would exist in the gonadotrophin releasing hormone for cattle market with the products Fertagyl (Intervet) and Receptal (Hoechst). These latter two products do belong to separate markets. However, as admitted also by the parties, it is possible for certain minor indications to use either or, making them for those indications substitutes.

41. While in many countries endocrine products are sold through wholesalers only which are, in some countries, legally obliged to stock all products available, this does not apply in others, inter alia Germany and Austria. Regarding the possible portfolio effect in GnRH products (Receptal/Fertagyl) and in hormone treatment in pigs (PG 600/Regumate), the parties state that veterinarians do not buy both products as a package although some veterinarians may, in view of the different indications for which the products are intended, their composition and use, have a stock of both products. Veterinarians will buy the product they need individually without considering that this is part of a wider range of products. However, the strong position of the parties with regard to different endocrine products for some species may lead to a range effect by implementing « crossed offers » which link the supply of the « must products » with the rest of the fertility treatment range for the same species.

42. The parties state that although they are the only suppliers of certain particular products, it doesn't raise serious doubts concerning possible range effects because the products themselves are not the only way of treating the relevant disease indications. They state that the fertility cyclus in animals being influenced by many factors like farm management practices, a farmer could choose to concentrate on these external factors, if he was facing a price increasing of the fertility products. This argument would not change the situation because if the farmer wants to use for practical reasons pharmaceuticals, the only products available in this field would be those of the parties.

43. Finally, the parties state that all endocrine treatments sold by HRVet and Intervet are off-patent and the reason no other party has entered these markets is due to their small

size. They state that in case of an increase in the prices of these reproductive products, Pfizer, Fort Dodge, Schering-Plough, Virbac and Merial could enter the endocrine markets because of the relative low cost for generic registration of these products. However, as described above in para.28, the cost of generic registration will be considerable once the data protection for residual-evaluations is granted. Moreover, the incentive to enter the endocrine markets will further decrease if the main player enjoys Research and Development, marketing and distribution mechanisms for a range of products doubled by the operation. Consequently, serious doubts have arisen during the investigation concerning range effects in endocrine treatments in France and Germany in particular.

B. Biologicals

1. Relevant product markets

44. Biologicals are preparations designed to direct an immune response against viral and bacterial diseases in pets and food animals. The major biological products are vaccines, followed by antisera and colostra. Vaccines are used to protect the animal against possible future infection and have a wide spectrum of effectiveness and duration of activity. Antisera and colostra contain a certain amount of antibodies that may be used to give an animal so-called passive immunity against a specific pathogen. They provide an acute, but short-lasting way of protection. The parties' activities do not overlap in antisera and colostra.

45. Regarding vaccines, several criteria ("hard criteria") must be considered to distinguish the different categories :

- vaccines can be monovalent (i.e. protecting against one pathogen) or multivalent (i.e. protecting against more than one pathogen).

-vaccines can be inactivated or live.

-vaccines can be classical or marker in a limited number of areas where marker vaccines are available.

- vaccines can be applied to different animal species: (i) livestock vaccines, which are products specifically produced for cloven-hoofed animals (cattle, pigs, sheep and goat) ; (ii) horse vaccines, (iii) poultry vaccines; and (iv) other vaccines which include rabies vaccines, vaccines for companion animals and fish vaccines. Generally vaccines for different animal species are not demand-side substitutable, i.e. cannot be given to other species, with the exception of vaccines for rabies.

- vaccines can be applied against different diseases for the same animal species (such as rabies, parrot's disease or leukemia in cats).

The parties state that all these criteria have to be taken into account to define separate relevant product markets. The market test has confirmed this view.

46. The notifying party states that there are other criteria ("soft" criteria) which should also be taken into account in the market definition depending on the product considered. They are the included pathogens on a strain/type/isolate level, the animal –species indication on a target group level (in the poultry and pig vaccine sectors especially), the route of administration, the types of adjuvant used, the technological composition (choice between whole-virus and vector for live vaccines and between whole-virus,

bacterin and subunit for inactivated vaccines) and possibly additional criteria like safety aspects for example. The market test has shown that these soft criteria are product differentiations which do not generally impede the substituability between the different types of vaccines, even if they sometimes make some vaccines more effective. These criteria may thus be taken into account in the competitive assessment but not for the definition of the relevant product market.

Pig vaccines

47. Erysipelas Rhusiopathiae is a bacterial disease that occurs worldwide. Erysipelas infections can be caused by a variety of strains. The most common strains belong to type 1 or type 2, while type 10 is isolated in some countries only. Vaccines that contain only type 2 strains do not protect against type 10 infections, whereas vaccines that contain both type 1 and type 2 do offer cross-protection against type 10. Vaccines against Erysipelas Rhusiopathiae are inactivated.

48. The parties maintain that the market for vaccines against Erysipelas rhusiopathiae has to be split into four different segments by using two criteria. The first one is the number of included isolates, i.e. whether the vaccine protects against type 2 or cross- protects against type 10 through the combination of type 1 and 2. The second equally important criterion concerns the adjuvant, which has an important impact on the effectiveness of the vaccine. According to the parties there are two different categories of adjuvants on the market, namely standard, but less effective adjuvants such as aluminium hydroxide and specific, patent protected adjuvants such as Diluvac Forte by Intervet. However, that segmentation was not supported by the market investigation. Therefore, the relevant product is the market for vaccines against Erysipelas rhusiopathiae.

49. All Porcine Parvo vaccines on the market are classical inactivated whole virus vaccines. The parties claim that two important criteria divide this market into different segments. Vaccines against Parvo protect either 6 months or one year. Therefore, duration of immunity would constitute an important segmentation criterion. Moreover, the type of adjuvant is crucial. However, that segmentation was not supported by the market investigation. Therefore, the relevant product is the market for vaccines against Porcine Parvo.

50. Instead of using two monovalent vaccines against Erysipelas Rhusiopathiae and Porcine Parvo it is also possible to vaccinate against the two diseases with a multivalent combination vaccine. Such a vaccination is cheaper than two single shots both in terms of product price and cost of administration. Multivalent vaccines, therefore, constitute a separate product market. The parties are of the opinion that the market for Erysipelas Rhusiopathiae plus Porcine Parvo vaccines has to be further segmented due to the duration of immunity (i.e. 6 or 12 months of protection against Parvo) and the number of included isolates, i.e. whether the vaccine protects against type 2 or cross- protection against type 10 through the combination of type 1 and 2 of Erysipelas Rhusiopathiae. However, that segmentation was not supported by the market investigation. Therefore, the relevant product is the market for multivalent vaccines against Erysipelas Rhusiopathiae plus Porcine.

51. Escherichia coli (E.coli) is a wide-spread bacterial pathogen which may cause a lethal form of diarrhoea in young piglets. Vaccines against E.coli are inactivated. According to the parties the market has to be segmented using 3 criteria. The first one concerns the range of field isolates (antigens), which determine the range of strains the vaccines can

protect against. The second criterion is the technological composition of the vaccine. Subunit vaccines contain a highly purified mixture of all important antigens, while more classic products contain only inactivated bacterial cultures of a certain number of E.coli strains. The last criterion is the adjuvant. However, that segmentation was not supported by the market investigation. Therefore, the relevant product is the market for vaccines against E.coli.

Horse Vaccines

52. As regards equine influenza virus vaccines, they are only inactivated. It appears to be relevant to separate monovalent vaccines and vaccines which combine equine influenza virus with a tetanus component. The latter allows the veterenian to combine the regular vaccination against influenza with a tetanus component instead of using two separate monovalent vaccines.

53. Regarding the equine influenza virus vaccines or the influenza component of the inactivated horse combination vaccine for Equine Influenza virus / Clostridium Tetani, the parties state that the strains included in the product are of crucial importance, leading to a strong segmentation of the markets on the basis of included isolates. They state that updated vaccines offer a more complete protection than non-updated vaccines. They state that a second important criterion is the technological composition : subunit vaccines are generally regarded as safer than whole virus products because the latter lead to certain strong vaccination reactions. They state that the type of adjuvant used is also relevant because some of them, such as saponine-like adjuvants (like Quil A) stimulate the cellular immune system, increasing the effect of the vaccine. The parties state that the updated or not criterion should be added to the hard criteria to define the markets for horses vaccines. The market test has shown that the type of adjuvant must not be considered as a criterion for segmentation even if it may represent a technical progress. Regarding the segmentation between updated and non-updated vaccines, it is not necessary to further delineate the relevant product markets because [*Deleted for publication; business secret*].

Dog Vaccines

54. Leptospira plus Rabies vaccines are inactivated multivalent vaccines protecting against Leptospirosis and Rabies. According to the parties Intervet's product is the only vaccine that also prevents urinary shedding for Leptospira and, therefore, operates in a different market segment. However, the market investigation did not support this view. Therefore, the relevant product is the market for vaccines against Leptospira plus Rabies vaccines.

Rabies Vaccines

55. Rabies affects almost every mammalian species, including humans. Vaccines against rabies can be used for a range of animals. While demand for public purposes is declining because the eradication policy has severely reduced rabies in continental Europe, demand for privately owned dogs is growing as animals are free to travel with their owners.

2. Relevant geographic market(s)

56. As in the case for animal health pharmaceuticals, the sale of biologicals and vaccines for use in animals is still influenced by administrative procedures with different national registrations and approval requirements. Competitor's market shares, prices of competing products and distribution systems differ widely between Mamber States leading to national market characteristics. Consequently, the relevant geographical markets for biologicals affected by the concentration will be regarded as national.

3. Assessment

57. Both parties supply monovalent and multivalent vaccines for a wide range of animal species in various Member States. In the pig vaccines sector, the markets for inactivated vaccines for Erysipelas rhusiopathiae are affected in the Netherlands and the UK. The markets for inactivated vaccines for Porcine Parvo virus are affected in Belgium, Ireland and Spain. The markets for inactivated vaccines for E.coli are affected in Belgium, Germany, Ireland, the Netherlands, Portugal, Spain and the United Kingdom. The markets for inactivated vaccines for Erysipelas/porcine Parvo virus are affected in Belgium, the Netherlands and Spain.

58. The horse vaccine sector represents worldwide sales of approximatively € [*Deleted for publication ; business secret*] million, of which [35-45] % are European sales. The most important products in this sector in terms of sales are vaccines that protect against the equine influenza virus. Some products protect against equine influenza alone (monovalent), while others also protect against one or two pathogens (multivalent). In the horse vaccine sector, the markets for inactivated vaccines for the equine inflenza virus are affected in Germany, Sweden, Finland and Denmark. The markets for inactivated vaccines for equine influenza virus/Clostridium tetani are affected in Belgium, Germany, Ireland, Italy, the Netherlands, Sweden, Finland and Denmark.

59. As far as dog and cat vaccines are concerned, both parties offer different types of vaccines, Intervet being specialised in live vaccines while HRVet mainly supplies inactivated vaccines. Concerning the dog vaccine sector, the only affected market is the market for vaccines against the lepstospira icterohaemorrhagiae/rabies virus in Germany.

60. The market for inactivated vaccines for rabies is affected in Germany.

61. In the cattle vaccine sector, both companies play a limited role. HRVet sells a marker-IBR vaccine (under a license for [*Deleted for publication ; business secret*]) and vaccines against neonatal calf diarrhoea as well as bovine salmonellosis for which Intervet does not have an equivalent product. Intervet has some minor sales with a classical IBR-vaccine and sells additionally some other bovine vaccines (lungworm, BVD), for which HRVet has no equivalent product. Consequently, no competition concerns seem to arise.

Pig vaccines

62. The parties overall market share for pig vaccines in the EU amounts to [25-35]% (Intervet [20-30]%, HR Vet [0-10]%). There are 15 affected product markets. In 11 of these markets the parties combined market share is [35-45]% or more. In addition, there are 16 conglomerate markets, where one of the two parties has a market share of [35-45]% or more.

Erysipelas Rhusiopathiae

63. The combined market share of the parties in Great Britain is [more than 90]% (HRVet [more than 80]%, Intervet [0-10]%). The remaining sales can be attributed to American Home Products. In the Netherlands, HR Vet adds [0-5] % to Intervets market share of [more than 80]%, amounting to [more than 80]%. Other competitors in the market are Merial with [0-5]% and Dopharma with [0-10]%. Therefore, the proposed merger could give raise to concerns of single dominance of the parties in the British and Dutch market for vaccines against Erysipelas Rhusiopathiae.

64. Furthermore, in 6 national markets one of the two parties has a market share of more than [35-45]%. Intervet has [55-65]% of the market in Greece, whereas HR Vet accounts for [40-50]% of the market in Denmark, [75-85]% in Finland, [70-80]% in Germany, [45-55]% in Ireland and [75-85]% in Sweden. There are, apart from the parties, 7 competitors in Europe who have erysipelas vaccines on the market. These suppliers include local players active only in one Member State like IDT, but also the international firms such as AHP, Merial and Pfizer. However, Intervet had planned to enter the markets in Germany and Ireland in 1999. In both markets HR Vet accounts for more than [45-55]% of sales, in the case of Germany even [70-80]% up from [40-50]% in 1996. The proposed transaction, therefore, gives rise to competitive concerns due to the removal of a potential entrant into the German and Irish market.

65. Therefore the operation raises serious doubts as to its compatibility with the common market in these markets.

Porcine Parvo

66. In Spain the parties combined market share amounts to [15-25]% of the overall market. The addition of market share is very small, since HR Vet has only [0-5]% of that market. The market leader is AHP with [40-50]%, followed by Hipra ([10-20]%), Merial ([0-10]%), Boehringer ([0-10]%) and Syva ([0-10]%). Therefore, this market is unlikely to raise competition concerns.

67. In Belgium, the parties will become the market leader with a combined market share of [35-45]% (Intervet [30-40]%, HR Vet [0-10]%), closely followed by AHP with [30-40]%. Merial has [10-20]%. The two market leaders would have roughly equal market shares and supply jointly [70-80]% of the Belgian market for vaccines against procine parvo. The market volume in Belgium amounts to only [*Deleted for publication ; business secret]* €, showing the characteristic of a niche market. The cost of registration is estimated by the parties to be around [*Deleted for publication ; business secret]* €, which makes entry rather unattractive. Moreover, the market is in a mature state. Consequently, the operation raises concerns of duopolistic dominance.

68. In Ireland the parties sales account for [30-40]% (Intervet [25-35]%, HR Vet [0-10]%) of the market. AHP will remain the market leader with [40-50]%, Merial comes in third with [10-20]%. Pfizer has [0-5]%. The two top supppliers would account for [more than 80]% of the market, raising the issue duopolistic dominance. The market volume in Ireland amounts to only [*Deleted for publication ; business secret]* €, showing the characteristic of a niche market. The cost of registration is estimated by the parties to be around [*Deleted for publication ; business secret]* €, which makes entry rather unattractive. Moreover, the market is in a mature state. However, the market shares are unequally balanced between AHP and the parties. There are two other internationally

active competitors in the market. Therefore, this market seems unlikely to raise concerns of duopolistic dominance.

69. The merger gives raise to 4 conglomerate markets in which the parties have market shares above [35-45]% (Intervet has a market share of [45-55]% in Greece, [35-45]% in Italy and [more than 80]% in the Netherlands, HR Vet accounts for [70-80]% of the market in Sweden). The proposed transaction, therefore, could give rise to competitive concerns due to the removal of a potential entrant into these markets. However, there are 6 competitors who have a parvo vaccine on the market in Europe, including AHP, Merial and Pharmacia & Upjohn. While neither of the parties had planned entry in one of the conglomerate markets both Boehringer Ingelheim and Merial have currently a product under registration in Italy.

70. Therefore, the operation raises serious doubts as to its compatibility with the common market in the Belgian market.

Erysipelas Rhusiopathiae plus Porcine Parvo virus

71. In the Netherlands the parties' combined market share would be [more than 80]% (Intervet [more than 70]%, HR Vet [0-10]%). The only other competitor is Merial supplying [0-10]% of the market. This market raises concerns of single dominance of the parties.

72. In Spain, the parties' combined market share would amount to [0-20]% (Intervet [5-15]%, HR Vet [0-10]%). Hipra will remain the market leader with [50-60]%, followed by AHP with [10-20]% and Merial with [0-10]% of the market. This market seems unlikely to raise competitive concerns.

73. In Belgium the merger will lead to a duopolistic situation. Merial continues to be the market leader with [65-75]%, the parties supply the remainder of the market (Intervet [15-25]%, HR Vet [0-10]%). In view of the asymmetry of the market share of Merial and the parties, the risk of a joint dominant position arising out of the transaction is rather limited.

74. Moreover, there are 3 conglomerate markets in which the parties have market shares above [35-45]% (Intervet has a market share of [45-55]% in Greece and [more than 90]% in the UK, HR Vet accounts for [65-75]% of the market in Sweden). The proposed transaction might, therefore, give raise to competitive concerns due to the removal of a potential entrant into these markets. However, there are 5 competitors who have an Erysipelas plus parvo vaccine on the market in Europe, including AHP, Merial and Schering-Plough. While neither of the parties had planned entry in one of the conglomerate markets American Home Products is likely to launch a vaccine in Greece. Moreover, HR Vet has stopped marketing its product in the UK prior to the merger.

75. Therefore, the operation raises serious doubts as to its compatibility with the common market in the Dutch market.

E. coli

76. The operation results in 7 affected market with market shares between [40-50]% and [more than 80]%. In Germany, the parties state in their notification that their combined

market share would amount to [40-50]%, up from [35-45]% in 1996. Number two in the market is IDT with, according to the parties, [30-40]% of sales. Other competitors comprise Schering Plough ([5-15]%) and AHP ([0-10]%). IDT itself, however, estimates its share to be only [15-25]%. Consequently, the market share of the parties could be as high as [55-65]%. This market raises concerns of single dominance of the parties.

77. A similar situation arises in Portugal. The parties would supply [45-55]% of the market (Intervet [45-55]%, HR Vet [0-10]%). Competitors in Portugal are Merial ([20-30]%), Sanofi ([10-20]%) and Vetlima ([0-10]%).

78. In the Netherlands, the competitive situation is as follows: The parties will become the market leader with [more than 80]% (Intervet [65-75]%, HR Vet [10-20]%). Schering-Plough supplies [0-10]% of the market, Merial [0-10]%. This market raises concerns of single dominance of the parties.

79. In the UK and in Belgium the merger would also raise competition concerns. In the UK the parties would supply [60-70]% of the market (Intervet [55-65]%, HR Vet [0-10]%). AHP is the only other supplier, accounting for [30-40]%. In Belgium the parties would supply [75-85]% of the market (Intervet [40-50]%, HR Vet [30-40]%). Merial is the only other supplier, accounting for [15-25]%.

80. In Ireland, the parties would account for [40-50]%, up from [35-45]% in 1996. (Intervet [35-45]%, HR Vet [0-10]%). Schering-Plough and AHP have [20-30]% each. This market raises concerns of single dominance.

81. In Spain Intervet supplies [45-55]% of the market, HR Vet [0-5]%, resulting in a combined share of [05-60]%. Hipra accounts for [15-25]% of the market, Schering-Plough has [5-15]%, AHP [0-10]% and Merial [0-5]%. HR Vet started marketing its product in 1997 and achieved a share of [0-5]% in 1998. [*Deleted for publication ; business secret]* In view of [*Deleted for publication ; business secret]* and the high market share of Intervet, the proposed transaction gives raise to competitive concerns of single dominance.

82. Moreover, there are 3 conglomerate markets in which the parties have market shares above [35-45]% (HR Vet has a market share of [45-55]% in Denmark and [65-75]% in Sweden, Intervet accounts for [45-55]% of the market in Greece). However, there are at least 8 competitors who have an E.coli vaccine on the market in Europe, including AHP, Merial and Schering-Plough. Moreover, the parties had no plans to enter in one of those conglomerate markets.

83. Therefore, the operation raises serious doubts as to its compatibility with the common market in the German, Portuguese, Dutch, British, Belgian, Irish and Spanish market.

Horse vaccines

84. Concerning the different national markets for inactivated horse vaccine for Equine Influenza virus and for inactivated horse combination vaccine for Equine Influenza virus / Clostridium Tetani, the parties argue generally that the Intervet product (Nobi Equenza) and the HRVet product (Prevacun N) differ in almost every important respect because the Intervet product only contains the non-updated strains, is a subunit vaccine

and uses Quil A as adjuvant while the HRVet product is an updated, whole-virus that uses aluminium hydroxide as adjuvant. They argue that due to the different product characteristics, there is little competitive pressure between the two products. On the basis of a segmentation between updated and non-updated strain, there would be most of the time no overlap between the parties respective products. However, [*Deleted for publication ; business secret]* . Therefore, it appears more appropriate not to take into account the updated /non-updated criterion in the competitive assessment of the following markets.

85. On the German market for inactivated horse vaccine for Equine Influenza virus, HRVet has a market share of [30-40] % and Intervet has a market share of [20-30] % in 1998. The main competitor on this market is American Home Products with a market share of [25-35] %. The parties state that in view of the limited substituability between updated and non-updated products, the operation will not have any significant impact on competition in this market. Given [*Deleted for publication ; business secret]*, it appears more appropriate to assess the market as a whole. In this case, the parties would have an aggregated market share of [55-65] %, almost twice that of the only remaining competitor. Therefore the operation raises serious doubts as to its compatibility with the common market in this market.

86. On the Swedish market for inactivated horse vaccine for Equine Influenza virus, HRVet has a market share of [40-50] % and Intervet has a market share of [5-15] % in 1998. The main competitors on this market are American Home Products and Schering Plough with respective market shares of [15-25] % and [15-25] %. The parties state that in view of the limited substituability between updated and non-updated products, the operation will not have any significant impact on competition in this market. Given [*Deleted for publication ; business secret]*, it appears more appropriate to assess the market as a whole. In this case, the parties would have a aggregated market share of [50-60] %, more than twice that of the remaining competitors. Therefore the operation raises serious doubts as to its compatibility with the common market in this market.

87. On the Finnish market for inactivated horse vaccine for Equine Influenza virus, the parties have a combined market share of [25-35]% (HRVet [0-10] %,Intervet [20-30] % in 1998). The parties have lost market shares as compared to 1997 when they accounted for [55-65]% of the market. The new entity will face the competition of the main player on this market, American Home Products, who was able to increase its market share to [55-65] % in 1998. Another supplier is Berner with [0-10] % of the market. The operation will thus not give rise to competition concerns because of the small increment of market share. In particular, it will not lead to the creation of a jointly dominant position since the respective market shares of the new entity and of the main player on the market are very asymmetric and fluctuating.

88. On the Danish market for inactivated horse vaccine for Equine Influenza virus, HRVet has a market share of [15-25] % and Intervet has a market share of [40-50] % in 1998. The main competitor is American Home Products with a market share of [25-35] %. The parties state that in view of the limited substituability between updated and non-updated products, the operation will not have any significant impact on competition in this market. Given [*Deleted for publication ; business secret]*, it appears more appropriate to assess the market as a whole. In this case, the parties would have a aggregated market share of [60-70] %, more than twice that of the only remaining competitor. Therefore the operation raises serious doubts as to its compatibility with the common market in this market.

89. On the German market for inactivated horse combination vaccine for Equine Influenza virus / Clostridium Tetani, HRVet has a market share of [25-35]% and Intervet has a market share of [20-30] % in 1998. The main competitors on this market are American Home Products and Merial with respective market share of [30-40] % and [0-5] %. The parties state that considering that Intervet is exclusively active on the non-updated segment and that the substituability between updated and non-updated products is very limited because of the different degree of protection provided respectively, the operation will not give rise to any competition problem. Given [*Deleted for publication ; business secret]*, it appears more appropriate to assess the market as a whole. If the whole equine influenza/clostridium tetani market is assessed without any further segmentation (combined market share of the parties : [55-65] %), the only competition to the new entity could come from AHP which also provides updated products (Duvaxyn) and non-updated products (Fluvac T). Therefore the operation raises serious doubts as to its compatibility with the common market in this market.

90. On the Dutch market for inactivated horse combination vaccine for Equine Influenza virus / Clostridium Tetani, HRVet has a market share of [0-10] % and Intervet has a market share of [45-55] % in 1998. The main competitors on this market are American Home Products and Merial with respective market share of [25-35] % and [0-5] %. The parties state that considering that Intervet is exclusively active on the non-updated segment and that the substituability between updated and non-updated products is very limited because of the different degree of protection provided respectively, the operation won't give rise to any competition problem. Given [*Deleted for publication ; business secret]*, it appears more appropriate to assess the market as a whole. If the whole equine influenza/clostridium tetani market is assessed without any further segmentation (combined market share of the parties : [50-60] %), the only competition to the new entity could come from AHP which also provides updated products (Duvaxyn) and non-updated products (Fluvac T). Therefore the operation raises serious doubts as to its compatibility with the common market in this market.

91. On the Italian market for inactivated horse combination vaccine for Equine Influenza virus / Clostridium Tetani, HRVet has a market share of [5-15] % and Intervet has a market share of [15-25] % in 1998. The main competitors on this market are American Home Products and Merial with respective market share of [50-60] % and [0-10] %. Again, the parties argue they are active respectively on the updated and non-updated segment but given [*Deleted for publication ; business secret]*, it seems more appropriate to assess the market as a whole. Nevertheless, even if the overall market for equine influenza virus / clostridium tetani is considered, the operation will not give rise to any competition concerns because the new entity (combined market share [30-40] %) will face the respective competition of the market leader AHP and of the Merial.

92. On the Danish market for inactivated horse combination vaccine for Equine Influenza virus / Clostridium Tetani, HRVet has a market share of [15-25] % and Intervet has a market share of [30-40]% in 1998 resulting in a combined market share of [50-60]%. The main competitors on this market are American Home Products and Schering-Plough with respective market share of [35-45] % and [0-5] %. The parties state that considering that Intervet is exclusively active on the non-updated segment and that the substituability between updated and non-updated products is very limited because of the different degree of protection provided respectively, the operation will not give rise to any competition problem. Given [*Deleted for publication ; business secret]*, it appears more appropriate to assess the market as a whole. If the whole equine

influenza/clostridium tetani market is assessed without any further segmentation (combined market share of the parties: [50-60] %), the only competition to the new entity could come from AHP ([35-45] %) which also provides updated and non-updated products. Therefore the operation raises serious doubts as to its compatibility with the common market in this market .

93. On the Belgian market for inactivated horse combination vaccine for Equine Influenza virus / Clostridium Tetani, HRVet has a market share of [10-20] % and Intervet has a market share of [10-20] % in 1998. The main competitors on this market are American Home Products and Merial with respective market share of [40-50] % and [15-25] %. Thus there are three strong competitors on the market with asymmetric market shares. Therefore the operation will not lead to any competition concerns on this market.

94. On the Irish market for inactivated horse combination vaccine for Equine Influenza virus / Clostridium Tetani, HRVet has a market share of [15-25] % and Intervet has a market share of [10-20] % in 1998. The main competitors on this market are American Home Products and Schering-Plough with respective market share of [40-50] % and [15-25] %. Thus there are three strong competitors on the market with asymmetric market shares. Therefore the operation will not lead to any competition concerns on this market.

95. On the Swedish market for inactivated horse combination vaccine for Equine Influenza virus / Clostridium Tetani, HRVet has a market share of [45-55] % and Intervet has a market share of [5-15] % in 1998. The main competitors on this market are American Home Products and Schering-Plough with respective market share of [20-30] % and [5-15$ %.The parties state that considering that Intervet is exclusively active on the non-updated segment and that the substituability between updated and non-updated products is very limited because of the different degree of protection provided respectively, the operation will not give rise to any competition problem. Given [*Deleted for publication ; business secret*], it appears more appropriate to assess the market as a whole. In this case, the new entity's market share will be around [55-65] %, more than twice that of the remaining competitors. Therefore, the operation raises serious doubts as to its compatibility with the common market in this market.

96. On the Finnish market for inactivated horse combination vaccine for Equine Influenza virus / Clostridium Tetani, the parties have a combined market share in 1998 of [35-45]% (HRVet [0-5] %,Intervet [35-45] %. The market share of the parties is in decline for the past two years (1996: [50-60]%, 1997: [50-60]%). The main competitors on this market are American Home Products and Schering-Plough with respective market share of [50-60] % and [0-5] %. The small increment of market share indicates that the competitive structure of the market won't be deeply changed by the operation. Therefore the operation will not lead to any competition concerns.

Dog Vaccines

97. The operation will give raise to one affected market, namely Leptospira plus rabies vaccines in Germany. The parties state in their notification that their combined market share would amount to [45-55]% (Intervet [40-50]%, HR Vet [0-5]%). Merial has [20-30]% of the market, Virbac [5-15]%, Schering –Plough [0-10]% and Pfizer [0-10]%. The parties claim that the increase in market share is relatively small, and 4 competitors of international standing are still present with substantial market shares. However, the investigation revealed that the market share of the parties is considerably higher

(around [55-65]%). This markets give raise to issues of single dominance. Therefore, the operation raises serious doubts as to its compatibility with the common market in this market.

98. Furthermore, third parties suggested that the proposed operation might lead to a portfolio or range effect in the market segment for vaccines for small companion animals (pets), in particular dogs and cats. However, the market investigation has shown, that competitors such as Merial and Pfizer have a similar attractive portfolio on offer. Therefore, the proposed merger does not appear to lead to any significant range effects in this segment.

Rabies Vaccines

99. Again, Germany is the only affected market. The combined market share of the parties amounts to [30-40]% (Intervet [10-20]%, HR Vet [15-25]%). Pfizer has [10-20]% of the market, followed by Merial with [10-20]%, Virbac with [10-20]% and Schering-Plough with [5-15]%. In these circumstances, it seems unlikely that the concentration will create or strenghtening a joint dominant position.

VI. RANGE EFFECTS IN HORIZONTALLY NON-AFFECTED MARKETS

100. It has been suggested by third parties that the proposed operation would lead to a portfolio or range effect in the market for sheep vaccines in the UK. There are 8 different diseases against which vaccines are offered. In addition, a combination (multivalent) vaccine is distributed offering protection against both Clostridial and Pasteurella. Consequently, nine different product markets for sheep vaccines exist in the UK.

101. The parties have no overlapping activities. However, as a result of the merger, the parties' product portfolio comprises products in six of those markets. Hoechst is the only supplier of the multivalent vaccine, which has the highest sales among all sheep vaccines. It has been suggested by third parties that this unique position might lead to a portfolio or range effect in the sense that veterinarians may be forced to buy other products for the treatment of sheep from the parties.

102. However, the UK distribution systems distinguishes between products which are only available by the veterinary surgeon (Prescription Only Medicines, POM), and products which are on a so-called Pharmaceutical Merchants List (PML) and can be sold over the counter from registered premises directly to the farmer. The parties claim, that Intervet sells exclusively to veterinarians, whereas HR Vet sells over the counter. Whilst veterinarians can sell both POM and PML products, in practice, only [5-15]% of PML are sold through veterinarians. Moreover, wholesalers submitted that they always buy the whole range of all producers.

103. Moreover, Schering-Plough offers sheep vaccines in four of the nine markets and is the sole supplier for vaccines against Louping ill. Schering-Plough as number two in the British market for sheep vaccines could, therefore, exercise countervailing portfolio power with regard to one product of the parties. Therefore, the proposed merger does not appear to lead to any significant range effects.

104. Furthermore, third parties suggested that the proposed operation might lead to a portfolio or range effect in the market for poultry vaccines, in particular in Germany. In

poultry vaccines, Intervet markets more than 50 different types of vaccine, covering most well-known ckicken pathogens. The only vaccine that HRVet has in the poultry sector is an inactivated vaccine containing Salmonella enteritidis, for which Intervet has no equivalent product in its range. Therefore, the portfolio of the new entity is broadened by just one product. In addition, HR Vet faces strong competition from the German producer of poultry vaccines Lohmann Animal Health, which has several salmonella vaccines for poultry on offer. Therefore, the proposed merger does not appear to lead to any significant range effects.

VII. COMMITMENTS SUBMITTED BY THE PARTIES

1. Pharmaceuticals

105. Concerning dry cow mastitis products, and in order to obtain Phase I clearance by the Commission, the parties have offered an irrevocable commitment to licence and transfer to a viable and independent third party the Intervet's pharmaceutical product Cefa-Safe in France. The commitment covers all know-how that has been received or generated by Intervet relating to the promotion of Cefa-Safe in France, the product trademark for commercialisation in France, the access to registrations to obtain the corresponding marketing authorisation in France and a supply agreement entered with the licensee for its needs with respect to the supply of the product. This commitment would thus eliminate the overlap with the cephalosporin-based dry cow product of HRVet Cepravin and appears to solve any competition concern for this product market in France (see point 30). The text of the undertaking is contained in **Annex 4.**

106. Concerning synthetic prostaglandins and in order to obtain Phase I clearance by the Commission, the parties have offered an irrevocable commitment to licence and transfer to a viable and independent third party all know-how and product trademarks concerning HRVet's Iliren as regards Portugal. The parties have also committed themselves to grant to a third party access to the registrations of the product and to enter into a supply agreement with the licensee for its needs with respect to the supply of the product. This commitment appears to adress the competition concerns in that market since it eliminates the overlap between the parties and allows to a potential competitor to enter the market (see point 37). The text of the undertaking is contained in **Annex 5.**

107. Concerning gonadotrophins and in order to obtain Phase I clearance by the Commission, the parties have offered an irrevocable commitment to licence and transfer to a viable and independent third party all know-how and product trademarks concerning HRVet's Veterin Anestro and Veterin Chorion as regards Spain. The parties have also committed themselves to grant to a third party access to the registrations of the product and to enter into a supply agreement with the licensee for its needs with respect to the supply of the product. This commitment appears to adress the competition concerns in that market since it eliminates the overlap between the parties and allows to a potential competitor to enter the market (see point 39). The text of the undertaking is contained in **Annex 5.**

108. Concerning GnRH and in order to obtain Phase I clearance by the Commission, the parties have offered an irrevocable commitment to licence and transfer to a viable and independent third party all know-how that has been received or generated by Intervet relating to the actual or proposed promotion or sale of Fertagyl in the European Union, the corresponding trademark for commercialisation in the European Union, the access

to registrations of Fertagyl to obtain marketing authorisation for it in the European Union, and a supply agreement with the licensee for its needs with respect to the supply of the product. This commitment has been proposed to solve any competition concerns regarding range effects which could have occurred considering the strong position of both parties for several complementary products in endocrine treatments (see points 40-43). The text of the undertaking is contained in **Annex 6.**

109. Concerning Progestagens and in order to obtain Phase I clearance by the Commission, the parties have offered an irrevocable commitment to licence and transfer to a viable and independent third party all know-how that has been received or generated by HRVet relating to the actual or proposed promotion or sale of Regumate in the European Union, the corresponding trademark for commercialisation in the European Union, the access to registrations of Regumate to obtain marketing authorisation for it in the European Union, and a supply agreement with the licensee for its needs with respect to the supply of the product. This commitment has also been proposed to solve any competition concerns regarding range effects which could have occurred considering the strong position of both parties for several complementary products in endocrine treatments (see points 40-43). The text of the undertaking is contained in **Annex 7.**

110. The commitments proposed by the parties regarding pharmaceutical products appear to address the competition concerns in the corresponding markets since they eliminate problematic overlaps between the parties as well as range effects.

2. Biologicals

111. Concerning pig vaccines, and in order to obtain Phase I clearance by the Commission, the parties have offered an irrevocable commitment to licence and transfer to a viable and independent third party all know-how and product trademarks concerning HR Vet's Porcovac Plus (E.coli) and Erysorb Plus (Erysipelas) for the whole of the Community, HR Vet's Parvosorb as regards Belgium and HR Vet's Erysorb Parvo as regards the Netherlands. These commitments appear to address the competition concerns in that market since they eliminate the overlaps between the parties and gives the buyer the possibility to enter those markets where only Intervet, but not HR Vet is active in (conglomerate markets). The text of the undertaking is contained in **Annex 2.**

112. Concerning horse vaccines and in order to obtain Phase I clearance by the Commission, the parties have offered an irrevocable commitment to licence and transfer to a viable and independent third party all know-how and product trademarks concerning HRVet’s Prevacun as regards Germany, Sweden, and Denmark, and HRVet’s product Prevacun NT as regards Germany, Sweden, Denmark and the Netherlands. Akzo Nobel has also committed itself to grant to a third party access to the registrations of the products and to enter into a supply agreement with the licensee for its needs with respect to the supply of the products. This commitment appears to address the competition concerns in that market since it eliminates the overlap between the parties and allows to a potential competitor to enter the market. The text of the undertaking is contained in **Annex 1.**

113. Concerning Leptospira plus rabies vaccines for dogs in Germany, and in order to obtain Phase I clearance by the Commission, the parties have offered an irrevocable commitment to licence and transfer to a viable and independent third party all know-how and product trademarks concerning HRVet’s Medilep LT in Germany. This

commitment appears to address the competition concerns in that market since it eliminates the overlap between the parties and allows to a potential competitor to enter the market. The text of the undertaking is contained in **Annex 3.**

VI. CONCLUSION

114. For the above reasons, the Commission has decided not to oppose the notified operation and to declare it compatible with the common market and with the EEA Agreement. This decision is adopted in application of Articles 6(1)(b) and 6(2) of Council Regulation (EEC) No 4064/89.

For the Commission,

LIST OF ANNEXES

CASE IV/M.1681 - AKZO NOBEL / HR VET

UNDERTAKINGS SUBMITTED IN ACCORDANCE WITH ARTICLES 18 AND 19 OF REGULATION 447/89

1. Undertakings related to horse vaccines
2. Undertakings related to pig vaccines
3. Undertaking related to Madilep LT
4. Undertaking related to Cefa-Safe
5. Undertakings related to Gonadotrophins and Synthetic Prostaglandins
6. Undertaking related to Fertagyl
7. Undertaking related to Regumate

1. Undertaking Related to Horse vaccines

The undertakings set out in this letter are given by Akzo Nobel N.V. to the Commission of the European Communities pursuant to Council Regulation (EEC) No. 4064/89 of 21 December 1989 on the control of concentrations between undertakings (as amended) in the context of the proposed acquisition of Hoechst AG's animal health business including its business unit Hoechst Roussel Vet GmbH by Akzo Nobel N.V. in order to take account of concerns raised by the Commission as regards any anti-competitive effects of the proposed acquisition in relation to the German, Swedish and Danish Equine influenza vaccine markets and to the German, Swedish, Danish and Dutch Equine influenza plus tetanus vaccine markets.

I. Definitions

1. " Akzo Nobel" means Akzo Nobel N.V., its directors, officers, employees, agents and representatives, predecessors, successors, and assigns ; the subsidiaries, in particular its affiliate Intervet International B.V. (" Intervet "), divisions, groups and affiliates controlled by Akzo Nobel, and the respective directors, officers, employees, and assigns each.

2. "Hoechst" means Hoechst AG, its directors, officers, employees, agents and representatives, predecessors, successors, and assigns ; the subsidiaries, in particular its affiliate Hoechst Roussel Vet GmbH ("HR Vet"), divisions, groups and affiliates controlled by Hoechst, and the respective directors, officers, employees, and assigns each.

3. " Commission " means the Commission of the European Communities.

4. "License" means a license for the trademark and the Know-how for each of the Products with respect to the countries concerned.

5. "Supply agreement" means an agreement with the licensee(s) for the licensee(s) needs with respect to the supply of the Products.

6. "Products" means:

   - Prevacun N as regards Germany, Sweden and Denmark;

   - Prevacun NT as regards Germany, Sweden, Denmark and the Netherlands.

7. "Prevacun N" means the corresponding pharmaceutical product marketed by HR Vet in Germany, Sweden and Denmark.

8. "Prevacun NT" means the corresponding pharmaceutical product marketed by HR Vet in Germany, Sweden, the Netherlands and Denmark.

9. "Know-how" means all marketing information including all Confidential Business Information and Know-how presently owned by HR Vet which relates directly to and is necessary for a full and proper commercialization of the Products in the countries concerned, including without limitation information stored on management information systems, proprietary software used in connection with the Products, and any other information and experience relating directly and necessary to a full and proper commercialization of the Products.

II. Object of the undertaking

1. At fair market conditions to be negotiated between Akzo Nobel, HR Vet and the licensee(s), HR Vet and Akzo Nobel undertake

   (a) to license and transfer to a third party or to several third parties

      (aa) all Know-How that has been received or generated by HR Vet and Akzo Nobel relating to the actual or proposed promotion or sale of the Products;

      (bb) the Products trademarks;

   (b) to grant to the third party access to the registrations of the Products in so far as is necessary for such third party to obtain marketing authorisation for the Products;

   (c) to enter into a supply agreement with the licensee(s) for its/their needs with respect to the supply of the Products.

2. The licensee(s) shall be viable third parties independent from the parties and possessing the financial resources and expertise to enable them to market the Products in active competition Akzo Nobel. The licensee(s) have to be approved for this purpose by the Commission.

III. Appointment of a Trustee

1. Within seven (7) working days after the adoption of the Commission decision clearing the Merger, Akzo Nobel and Hoechst will propose to the Commission a trustee, who is independent of the parties, to assure that they expeditiously perform their responsibilities as required by Section II. of this undertaking, provided the License and the registration access have not been granted and the Supply agreement not entered into until then.

2. The appointment of the trustee is subject to approval of the Commission, such approval not to be unreasonably withheld. Akzo Nobel and Hoechst shall consent to the following terms and conditions regarding the powers, duties, authorities, and responsibilities of the trustee.

3. The trustee shall have the power and authority to monitor Hoechst‘s and Akzo Nobel’s compliance with the terms of this undertaking and shall exercise such power and authority and carry out the duties and responsibilities of the trustee in a manner consistent with the purposes of this undertaking and in consultation with the Commission on the basis of written monthly reports.

4. Within ten (10) days after appointment of the trustee, Akzo Nobel and Hoechst shall execute a trust agreement that, subject to the prior approval of the Commission, confers to the trustee all the rights and powers necessary to permit the trustee to monitor their compliance with the terms of this undertaking and in a manner consistent with the purposes of this undertaking.

5. The trustee shall have full and complete access to Hoechst’s and Akzo Nobel’s personnel, books, records, documents, facilities and technical information relating to the research, development, manufacture, distribution and sale of the Products.

6. After […] months have elapsed from the date of the approval of the concentration by the Commission, without Hoechst having entered into a binding agreement for the obligations set forth in Section II. of this undertaking, the trustee’s mandate shall be extended to carry out the additional functions set out hereunder. The above period may be extended by the Commission on the request of Hoechst and Akzo Nobel for a further maximum and non-extendable period of […] months.

7. After […] months and any extension of that period have elapsed from the date of the approval of the concentration by the Commission, the trustee shall have […] months to accomplish the arrangements provided in section II. at a fair market price. If, however, at the end of the above period, the trustee has submitted a plan to accomplish the arrangements provided in Section II. or believes that such arrangement can be achieved within a reasonable time, the above period may be extended by the Commission. The License shall be in any event subject to the Commission's prior approval.

8. […].

9. Hoechst and Akzo Nobel shall execute a trust agreement that, subject to the prior approval for the Commission, transfers to the trustee all rights and powers necessary to permit the trustee to effect the License as described above.

10. Hoechst and Akzo Nobel shall develop such financial or other information as the trustee may request and shall cooperate with the trustee. They shall take no action to interfere with or impede the trustee's accomplishment of the License.

11. The trustee shall report in writing to Hoechst, Akzo Nobel and the Commission every thirty (30) days concerning the trustee's efforts to accomplish the License.

12. Pending completion of the undertaking Akzo Nobel undertakes to use reasonable efforts to ensure that, so far as relevant, the Products are maintained, pursuant to good business practices, at their current level, including that all contracts necessary to preserve them as such are continued in accordance with their terms, consistent with good business practice and the ordinary course of business.

On behalf of Akzo Nobel
19 November 1999

Signed by

2. Undertaking Related to Pig Vaccines

The undertakings set out in this letter are given by Akzo Nobel N.V. to the Commission of the European Communities pursuant to Council Regulation (EEC) No. 4064/89 of 21 December 1989 on the control of concentrations between undertakings (as amended) in the context of the proposed acquisition of Hoechst AG's animal health business including its business unit Hoechst Roussel Vet GmbH by Akzo Nobel N.V. in order to take account of concerns raised by the Commission as regards any anti-competitive effects of the proposed acquisition in relation to the Belgian Parvovirosis vaccine market, all Erysipela rhusiopathiae vaccine markets in the Community, all the E. Coli vaccine markets in the Community and the Dutch Erysipelas plus Parvo vaccine market.

I. Definitions

1. " Akzo Nobel" means Akzo Nobel N.V., its directors, officers, employees, agents and representatives, predecessors, successors, and assigns ; the subsidiaries, in particular its affiliate Intervet International B.V. (" Intervet "), divisions, groups and affiliates controlled by Akzo Nobel, and the respective directors, officers, employees, and assigns each.

2. "Hoechst" means Hoechst AG, its directors, officers, employees, agents and representatives, predecessors, successors, and assigns ; the subsidiaries, in particular its affiliate Hoechst Roussel Vet GmbH ("HR Vet"), divisions, groups and affiliates controlled by Hoechst, and the respective directors, officers, employees, and assigns each.

3. " Commission " means the Commission of the European Communities.

4. "License" means an license for the trademark and the Know-how for each of the Products with respect to the countries concerned.

5. "Supply agreement" means an agreement with the licensee(s) for the licensee(s) needs with respect to the supply of the Products.

6. "Products" means:

   - Parvosorb as regards Belgium;

   - Erysorb Plus as regards the European Union;

   - Porcovac Plus as regards the European Union;

   - Erysorb Parvo as regards the Netherlands.

7. "Parvosorb" means the corresponding pharmaceutical product marketed by HR Vet in Belgium.

8. "Erysorb Plus" means the corresponding pharmaceutical product marketed by HR Vet in the European Union.

9. " Porcovac Plus " means the corresponding pharmaceutical product marketed by HR Vet in the European Union.

10. "Erysorb Parvo" means the corresponding pharmaceutical product marketed by HR Vet in the Netherlands.

11. " Know-how " means all marketing information. It includes all Confidential Business Information and Know-how presently owned by HR Vet which relates directly to and is necessary for a full and proper commercialization of the Products in the countries concerned, including without limitation information stored on management information systems, proprietary software used in connection with the Products, and any other information and experience relating directly and necessary to a full and proper commercialization of the Products.

II. Object of the undertaking

1. At fair market conditions to be negotiated between Akzo Nobel, HR Vet and the licensee(s), HR Vet and Akzo Nobel undertake

   (a) to license and transfer to a third party or to several third parties

      (aa) all Know-How that has been received or generated by HR Vet and Akzo Nobel relating to the actual or proposed promotion or sale of the Products;

      (bb) the Products trademarks;

   (b) to grant to the third party access to the registrations of the Products in so far as is necessary for such third party to obtain marketing authorisation for the Products;

   (c) to enter into a supply agreement with the licensee(s) for its/their needs with respect to the supply of the Products

2. The licensee(s) shall be viable third parties independent from the parties and possessing the financial resources and expertise to enable them to market the Products in active competition with Akzo Nobel. The licensee(s) have to be approved for this purpose by the Commission.

III. Appointment of a Trustee

1. Within seven (7) working days after the adoption of the Commission decision clearing the Merger, Akzo Nobel and Hoechst will propose to the Commission a trustee, who is independent of the parties, to assure that they expeditiously perform their responsibilities as required by Section II. of this undertaking, provided the License and the registration access have not been granted and the Supply Agreement not entered into until then.

2. The appointment of the trustee is subject to approval of the Commission, such approval not to be unreasonably withheld. Akzo Nobel and Hoechst shall consent to the following terms and conditions regarding the powers, duties, authorities, and responsibilities of the trustee.

3. The trustee shall have the power and authority to monitor Hoechst's and Akzo Nobel's compliance with the terms of this undertaking and shall exercise such power and authority and carry out the duties and responsibilities of the trustee in a manner consistent with the purposes of this undertaking and in consultation with the Commission on the basis of written monthly reports.

4. Within ten (10) days after appointment of the trustee, Akzo Nobel and Hoechst shall execute a trust agreement that, subject to the prior approval of the Commission, confers to the trustee all the rights and powers necessary to permit the trustee to monitor their compliance with the terms of this undertaking and in a manner consistent with the purposes of this undertaking.

5. The trustee shall have full and complete access to Hoechst's and Akzo Nobel's personnel, books, records, documents, facilities and technical information relating to the distribution and sale of the Products.

6. […] have elapsed from the date of the approval of the concentration by the Commission, without Hoechst having entered into a binding agreement for the obligations set forth in Section II. of this undertaking, the trustee's mandate shall be extended to carry out the additional functions set out hereunder. The above period may be extended by the Commission on the request of Hoechst and Akzo Nobel for a further maximum and non-extendable period […].

7. […] and any extension of that period have elapsed from the date of the approval of the concentration by the Commission, the trustee shall have […] to accomplish the arrangements provided in section II. at a fair market price. If, however, at the end of the above period, the trustee has submitted a plan to accomplish the arrangements provided in Section II. or believes that such arrangement can be achieved within a reasonable time, the above period may be extended by the Commission. The License and the Supply Agreement shall be in any event subject to the Commission's prior approval.

8. […].

9. Hoechst and Akzo Nobel shall execute a trust agreement that, subject to the prior approval for the Commission, transfers to the trustee all rights and powers necessary to permit the trustee to effect the License and the Supply Agreement as described above.

10. Hoechst and Akzo Nobel shall develop such financial or other information as the trustee may request and shall cooperate with the trustee. They shall take no action to interfere with or impede the trustee's accomplishment of the License and the Supply Agreement.

11. The trustee shall report in writing to Hoechst, Akzo Nobel and the Commission every thirty (30) days concerning the trustee's efforts to accomplish the License and the Supply Agreement.

12. Pending completion of the undertaking, Akzo Nobel undertakes to use reasonable efforts to ensure that, so far as relevant, the Products are maintained, pursuant to good business practices, at their current level, including that all contracts necessary to preserve them as such are continued in accordance with their terms, consistent with good business practice and the ordinary course of business.

On behalf of Akzo Nobel
19 November 1999

Signed by

3. Undertaking Related to Madilep LT

The undertakings set out in this letter are given by Akzo Nobel N.V. to the Commission of the European Communities pursuant to Council Regulation (EEC) No. 4064/89 of 21 December 1989 on the control of concentrations between undertakings (as amended) in the context of the proposed acquisition of Hoechst AG's animal health business including its business unit Hoechst Roussel Vet GmbH by Akzo Nobel N.V. in order to take account of concerns raised by the Commission as regards any anti-competitive effects of the proposed acquisition in relation to the German market for dog Leptospira plus Rabies vaccines.

I. Definitions

1. "Akzo Nobel" means Akzo Nobel N.V., its directors, officers, employees, agents and representatives, predecessors, successors, and assigns ; the subsidiaries, in particular its affiliate Intervet International B.V. ("Intervet"), divisions, groups and affiliates controlled by Akzo Nobel, and the respective directors, officers, employees, and assigns each.

2. "Hoechst" means Hoechst AG, its directors, officers, employees, agents and representatives, predecessors, successors, and assigns ; the subsidiaries, in particular its affiliate Hoechst Roussel Vet GmbH ("HR Vet"), divisions, groups and affiliates controlled by Hoechst, and the respective directors, officers, employees, and assigns each.

3. "Commission" means the Commission of the European Communities.

4. "License" means a license for the trademark and the Know-how for Madilep LT in Germany.

5. "Supply agreement" means an agreement with the licensee for the licensee's needs with respect to the supply of Madilep LT.

6 "Madilep LT" means the corresponding pharmaceutical product marketed by HR Vet in Germany.

7. "Know-how" means all marketing information including all Confidential Business Information and Know-how presently owned by HR Vet which relates directly to and is necessary for a full and proper commercialization of Madilep LT in Germany, including without limitation information stored on management information systems, proprietary software used in connection with Madilep LT, and any other information and experience relating directly and necessary to a full and proper commercialization of Madilep LT in Germany.

II. Object of the undertaking

1. At fair market conditions to be negotiated between Akzo Nobel, HR Vet and the licensee, Akzo Nobel and HR Vet undertake

   (a) to license and transfer to a third party

      (aa) all Know-How that has been received or generated by HR Vet relating to the actual or proposed promotion or sale of Madilep LT in Germany;

      (bb) the Madilep LT trademark for commercialization in Germany;

   (b) to grant to the third party access to the registrations of Madilep LT in so far as is necessary for such third party to obtain marketing authorisation for Madilep LT in Germany;

   (c) to enter into a supply agreement with the licensee for its needs with respect to the supply of Madilep LT.

2. The licensee shall be a viable third party independent from the parties and possessing the financial resources and expertise to enable it to market Madilep LT in active competition with Akzo Nobel. The licensee has to be approved for this purpose by the Commission.

III. Appointment of a Trustee

1. Within seven (7) working days after the adoption of the Commission decision clearing the Merger, Akzo Nobel and Hoechst will propose to the Commission a trustee, who is independent of the parties, to assure that they expeditiously perform their responsibilities as required by Section II. of this undertaking, provided the License and the registration access have not been granted and the Supply agreement not entered into until then.

2. The appointment of the trustee is subject to approval of the Commission, such approval not to be unreasonably withheld. Akzo Nobel and Hoechst shall consent to the following terms and conditions regarding the powers, duties, authorities, and responsibilities of the trustee.

3. The trustee shall have the power and authority to monitor Hoechst‘s and Akzo Nobel’s compliance with the terms of this undertaking and shall exercise such power and authority and carry out the duties and responsibilities of the trustee in a manner consistent with the purposes of this undertaking and in consultation with the Commission on the basis of written monthly reports.

4. Within ten (10) days after appointment of the trustee, Akzo Nobel and Hoechst shall execute a trust agreement that, subject to the prior approval of the Commission, confers to the trustee all the rights and powers necessary to permit the trustee to monitor their compliance with the terms of this undertaking and in a manner consistent with the purposes of this undertaking.

5. The trustee shall have full and complete access to Hoechst’s and Akzo Nobel’s personnel, books, records, documents, facilities and technical information relating to the research, development, manufacture, distribution and sale of the Products.

6. […] have elapsed from the date of the approval of the concentration by the Commission, without Hoechst having entered into a binding agreement for the obligations set forth in Section II. of this undertaking, the trustee’s mandate shall be extended to carry out the additional functions set out hereunder. The above period may be extended by the Commission on the request of Hoechst and Akzo Nobel for a further maximum and non-extendable period […].

7. […] and any extension of that period have elapsed from the date of the approval of the concentration by the Commission, the trustee shall have […] to accomplish the arrangements provided in section II. at a fair market price. If, however, at the end of the above period, the trustee has submitted a plan to accomplish the arrangements provided in Section II. or believes that such arrangement can be achieved within a reasonable time, the above period may be extended by the Commission. The License shall be in any event subject to the Commission’s prior approval.

8. […].

9. Hoechst and Akzo Nobel shall execute a trust agreement that, subject to the prior approval for the Commission, transfers to the trustee all rights and powers necessary to permit the trustee to effect the License as described above.

10. Hoechst and Akzo Nobel shall develop such financial or other information as the trustee may request and shall cooperate with the trustee. They shall take no action to interfere with or impede the trustee’s accomplishment of the License.

11. The trustee shall report in writing to Hoechst, Akzo Nobel and the Commission every thirty (30) days concerning the trustee’s efforts to accomplish the License.

12. Pending completion of the undertaking Akzo Nobel undertakes to use reasonable efforts to ensure that, so far as relevant, Madilep LT is maintained, pursuant to good business practices, at its current level, including that all contracts necessary to preserve it as such are continued in accordance with their terms, consistent with good business practice and the ordinary course of business.

On behalf of Akzo Nobel
19 November 1999

Signed by

4. Undertaking Related to Cefa-Safe

The undertakings set out in this letter are given by Akzo Nobel N.V. to the Commission of the European Communities pursuant to Council Regulation (EEC) No. 4064/89 of 21 December 1989 on the control of concentrations between undertakings (as amended) in the context of the proposed acquisition of Hoechst AG's animal health business including its business unit Hoechst Roussel Vet GmbH by Akzo Nobel N.V. in order to take account of concerns raised by the Commission as regards any anti-competitive effects of the proposed acquisition in relation to the French market for dry cow products based on cephalosporins.

I. Definitions

1. "Akzo Nobel" means Akzo Nobel N.V., its directors, officers, employees, agents and representatives, predecessors, successors, and assigns ; the subsidiaries, in particular its affiliate Intervet International B.V. ("Intervet"), divisions, groups and affiliates controlled by Akzo Nobel, and the respective directors, officers, employees, and assigns each.

2. "Hoechst" means Hoechst AG, its directors, officers, employees, agents and representatives, predecessors, successors, and assigns ; the subsidiaries, in particular its affiliate Hoechst Roussel Vet GmbH ("HR Vet"), divisions, groups and affiliates controlled by Hoechst, and the respective directors, officers, employees, and assigns each.

3. "Commission" means the Commission of the European Communities.

4. "License" means a license for the trademark and the Know-how for Cefa-Safe in France.

5. "Supply agreement" means an agreement with the licensee for the licensee's needs with respect to the supply of Cefa-Safe.

6 "Cefa-Safe" means the corresponding pharmaceutical product marketed by Intervet in France.

7. "Know-how" means all marketing information including all Confidential Business Information and Know-how presently owned by Intervet which relates directly to and is necessary for a full and proper commercialization of Cefa-Safe in France, including without limitation information stored on management information systems, proprietary software used in connection with Cefa-Safe, and any other information and experience relating directly and necessary to a full and proper commercialization of Cefa-Safe in France.

II. Object of the undertaking

1. At fair market conditions to be negotiated between Intervet and the licensee, Intervet undertakes

   (a) to license and transfer to a third party

      (aa) all Know-How that has been received or generated by Intervet relating to the actual or proposed promotion or sale of Cefa-Safe in France;

      (bb) the Cefa-Safe trademark for commercialization in France;

   (b) to grant to the third party access to the registrations of Cefa-Safe in so far as is necessary for such third party to obtain marketing authorisation for Cefa-Safe in France;

   (c) to enter into a supply agreement with the licensee for its needs with respect to the supply of Cefa-Safe.

2. The licensee shall be a viable third party independent from the parties and possessing the financial resources and expertise to enable it to market Cefa-Safe in active competition with Akzo Nobel. The licensee has to be approved for this purpose by the Commission.

III. Appointment of a Trustee

1. Within seven (7) working days after the adoption of the Commission decision clearing the Merger, Akzo Nobel and Hoechst will propose to the Commission a trustee, who is independent of the parties, to assure that they expeditiously perform their responsibilities as required by Section II. of this undertaking, provided the License and the registration access have not been granted and the Supply agreement not entered into until then.

2. The appointment of the trustee is subject to approval of the Commission, such approval not to be unreasonably withheld. Akzo Nobel and Hoechst shall consent to the following terms and conditions regarding the powers, duties, authorities, and responsibilities of the trustee.

3. The trustee shall have the power and authority to monitor Hoechst‘s and Akzo Nobel’s compliance with the terms of this undertaking and shall exercise such power and authority and carry out the duties and responsibilities of the trustee in a manner consistent with the purposes of this undertaking and in consultation with the Commission on the basis of written monthly reports.

4. Within ten (10) days after appointment of the trustee, Akzo Nobel and Hoechst shall execute a trust agreement that, subject to the prior approval of the Commission, confers to the trustee all the rights and powers necessary to permit the trustee to monitor their compliance with the terms of this undertaking and in a manner consistent with the purposes of this undertaking.

5. The trustee shall have full and complete access to Hoechst’s and Akzo Nobel’s personnel, books, records, documents, facilities and technical information relating to the research, development, manufacture, distribution and sale of the Products.

6. […] have elapsed from the date of the approval of the concentration by the Commission, without Hoechst having entered into a binding agreement for the obligations set forth in Section II. of this undertaking, the trustee’s mandate shall be extended to carry out the additional functions set out hereunder. The above period may be extended by the Commission on the request of Hoechst and Akzo Nobel for a further maximum and non-extendable period […].

7. […] and any extension of that period have elapsed from the date of the approval of the concentration by the Commission, the trustee shall have […] to accomplish the arrangements provided in section II. at a fair market price. If, however, at the end of the above period, the trustee has submitted a plan to accomplish the arrangements provided in Section II. or believes that such arrangement can be achieved within a reasonable time, the above period may be extended by the Commission. The License shall be in any event subject to the Commission’s prior approval.

8. […].

9. Hoechst and Akzo Nobel shall execute a trust agreement that, subject to the prior approval for the Commission, transfers to the trustee all rights and powers necessary to permit the trustee to effect the License as described above.

10. Hoechst and Akzo Nobel shall develop such financial or other information as the trustee may request and shall cooperate with the trustee. They shall take no action to interfere with or impede the trustee’s accomplishment of the License.

11. The trustee shall report in writing to Hoechst, Akzo Nobel and the Commission every thirty (30) days concerning the trustee’s efforts to accomplish the License.

12. Pending completion of the undertaking Akzo Nobel undertakes to use reasonable efforts to ensure that, so far as relevant, Cefa-Safe is maintained, pursuant to good business practices, at their current level, including that all contracts necessary to preserve it as such are continued in accordance with its terms, consistent with good business practice and the ordinary course of business.

On behalf of Akzo Nobel
19 November 1999

Signed by

5. Undertaking Related to Gonadotrophins and Synthetic prostaglandins

The undertakings set out in this letter are given by Akzo Nobel N.V. to the Commission of the European Communities pursuant to Council Regulation (EEC) No. 4064/89 of 21 December 1989 on the control of concentrations between undertakings (as amended) in the context of the proposed acquisition of Hoechst AG's animal health business including its business unit Hoechst Roussel Vet GmbH by Akzo Nobel N.V. in order to take account of concerns raised by the Commission as regards any anti-competitive effects of the proposed acquisition in relation to the Portuguese Synthetic prostaglandin market and to the Spanish Gonadotrophin market.

I. Definitions

1. "Akzo Nobel" means Akzo Nobel N.V., its directors, officers, employees, agents and representatives, predecessors, successors, and assigns ; the subsidiaries, in particular its affiliate Intervet International B.V. (" Intervet "), divisions, groups and affiliates controlled by Akzo Nobel, and the respective directors, officers, employees, and assigns each.

2. "Hoechst" means Hoechst AG, its directors, officers, employees, agents and representatives, predecessors, successors, and assigns ; the subsidiaries, in particular its affiliate Hoechst Roussel Vet GmbH ("HR Vet"), divisions, groups and affiliates controlled by Hoechst, and the respective directors, officers, employees, and assigns each.

3. " Commission "means the Commission of the European Communities.

4. "License" means an license for the trademark and the Know-how for each of the Products with respect to the countries concerned.

5. "Supply agreement" means an agreement with the licensee(s) for the licensee(s) needs with respect to the supply of the Products.

6. " Products" means:

   - Iliren as regards Portugal;
   - Veterin Anestro as regards Spain;
   - Veterin Chorion as regards Spain.

7. "Iliren" means the corresponding pharmaceutical product marketed by HR Vet in Portugal.

8. "Veterin Anestro" means the corresponding pharmaceutical product marketed by HR Vet in Spain.

9. "Veterin Chorion" means the corresponding pharmaceutical product marketed by HR Vet in Spain.

10. " Know-how " means all marketing information including all Confidential Business Information and Know-how presently owned by HR Vet which relates directly to and is necessary for a full and proper commercialization of the Products in Portugal and Spain respectively, including without limitation information stored on management information systems, proprietary software used in connection with the Products, and any other information and experience relating directly and necessary to a full and proper commercialization of Products.

II. Object of the undertaking

1. At fair market conditions to be negotiated between Akzo Nobel, HR Vet and the licensee(s), HR Vet and Akzo Nobel undertake

   (a) to license and transfer to a third party or to several third parties

      (aa) all Know-How that has been received or generated by HR Vet and Akzo Nobel relating to the actual or proposed promotion or sale of the Products;

      (bb) the Products trademarks;

   (b) to grant to the third party access to the registrations of the Products in so far as is necessary for such third party to obtain marketing authorisation for the Products;

   (c) to enter into a supply agreement with the licensee(s) for its/their needs with respect to the supply of the Products.

2. The licensee(s) shall be viable third parties independent from the parties and possessing the financial resources and expertise to enable them to market the Products in active competition with Akzo Nobel. The licensee(s) have to be approved for this purpose by the Commission.

III. Appointment of a Trustee

1. Within seven (7) working days after the adoption of the Commission decision clearing the Merger, Akzo Nobel and Hoechst will propose to the Commission a trustee, who is independent of the parties, to assure that they expeditiously perform their responsibilities as required by Section II. of this undertaking, provided the License and the registration access have not been granted and the Supply agreement not entered into until then.

2. The appointment of the trustee is subject to approval of the Commission, such approval not to be unreasonably withheld. Akzo Nobel and Hoechst shall consent to the following terms and conditions regarding the powers, duties, authorities, and responsibilities of the trustee.

3. The trustee shall have the power and authority to monitor Hoechst‘s and Akzo Nobel’s compliance with the terms of this undertaking and shall exercise such power and authority and carry out the duties and responsibilities of the trustee in a manner consistent with the purposes of this undertaking and in consultation with the Commission on the basis of written monthly reports.

4. Within ten (10) days after appointment of the trustee, Akzo Nobel and Hoechst shall execute a trust agreement that, subject to the prior approval of the Commission, confers to the trustee all the rights and powers necessary to permit the trustee to monitor their compliance with the terms of this undertaking and in a manner consistent with the purposes of this undertaking.

5. The trustee shall have full and complete access to Hoechst’s and Akzo Nobel’s personnel, books, records, documents, facilities and technical information relating to the research, development, manufacture, distribution and sale of the Products.

6. […] have elapsed from the date of the approval of the concentration by the Commission, without Hoechst having entered into a binding agreement for the obligations set forth in Section II. of this undertaking, the trustee’s mandate shall be extended to carry out the additional functions set out hereunder. The above period may be extended by the Commission on the request of Hoechst and Akzo Nobel for a further maximum and non-extendable period […].

7. […] and any extension of that period have elapsed from the date of the approval of the concentration by the Commission, the trustee shall have […] to accomplish the arrangements provided in section II. at a fair market price. If, however, at the end of the above period, the trustee has submitted a plan to accomplish the arrangements provided in Section II. or believes that such arrangement can be achieved within a reasonable time, the above period may be extended by the Commission. The License shall be in any event subject to the Commission's prior approval.

8. […].

9. Hoechst and Akzo Nobel shall execute a trust agreement that, subject to the prior approval for the Commission, transfers to the trustee all rights and powers necessary to permit the trustee to effect the License as described above.

10. Hoechst and Akzo Nobel shall develop such financial or other information as the trustee may request and shall cooperate with the trustee. They shall take no action to interfere with or impede the trustee's accomplishment of the License.

11. The trustee shall report in writing to Hoechst, Akzo Nobel and the Commission every thirty (30) days concerning the trustee's efforts to accomplish the License.

12. Pending completion of the undertaking, Akzo Nobel undertakes to use reasonable efforts to ensure that, so far as relevant, the Products are maintained, pursuant to good business practices, at their current level, including that all contracts necessary to preserve them as such are continued in accordance with their terms, consistent with good business practice and the ordinary course of business.

On behalf of Akzo Nobel
19 November 1999

Signed by

6. Undertaking Related to Fertagyl

The undertakings set out in this letter are given by Akzo Nobel N.V. to the Commission of the European Communities pursuant to Council Regulation (EEC) No. 4064/89 of 21 December 1989 on the control of concentrations between undertakings (as amended) in the context of the proposed acquisition of Hoechst AG's animal health business including its business unit Hoechst Roussel Vet GmbH by Akzo Nobel N.V. in order to take account of concerns raised by the Commission as regards any anti-competitive effects of the proposed acquisition in relation to all the GnRH markets in the Community.

I. Definitions

1. "Akzo Nobel" means Akzo Nobel N.V., its directors, officers, employees, agents and representatives, predecessors, successors, and assigns ; the subsidiaries, in particular its affiliate Intervet International B.V. ("Intervet"), divisions, groups and affiliates controlled by Akzo Nobel, and the respective directors, officers, employees, and assigns each.

2. "Hoechst" means Hoechst AG, its directors, officers, employees, agents and representatives, predecessors, successors, and assigns ; the subsidiaries, in particular its affiliate Hoechst Roussel Vet GmbH ("HR Vet"), divisions, groups and affiliates controlled by Hoechst, and the respective directors, officers, employees, and assigns each.

3. "Commission" means the Commission of the European Communities.

4. "License" means a license for the trademark and the Know-how for Fertagyl in the European Union.

5. "Supply agreement" means an agreement with the licensee for the licensee's needs with respect to the supply of Fertagyl.

6. "Fertagyl" means the corresponding pharmaceutical product marketed by Intervet.

7. "Know-how" means all marketing information including all Confidential Business Information and Know-how presently owned by Intervet which relates directly to and is necessary for a full and proper commercialization of Fertagyl the European Union, including without limitation information stored on management information systems, proprietary software used in connection with Fertagyl, and any other information and experience relating directly to and necessary for a full and proper commercialization of Fertagyl in the European Union.

II. Object of the undertaking

1. At fair market conditions to be negotiated between Intervet and the licensee, Intervet undertakes

   (a) to license and transfer to a third party

      (aa) all Know-How that has been received or generated by Intervet relating to the actual or proposed promotion or sale of Fertagyl in the European Union;

      (bb) the Fertagyl trademark for commercialization in the European Union;

   (b) to grant to the third party access to the registrations of Fertagyl in so far as is necessary for such third party to obtain marketing authorisation for Fertagyl in the European Union;

   (c) to enter into a supply agreement with the licensee for its needs with respect to the supply of Fertagyl.

2. The licensee shall be a viable third party independent from the parties and possessing the financial resources and expertise to enable it to market Fertagyl in active competition with Akzo Nobel. The licensee has to be approved for this purpose by the Commission.

III. Appointment of a Trustee

1. Within seven (7) working days after the adoption of the Commission decision clearing the Merger, Akzo Nobel and Hoechst will propose to the Commission a trustee, who is independent of the parties, to assure that they expeditiously perform their responsibilities as required by Section II. of this undertaking, provided the License and the registration access have not been granted and the Supply agreement not entered into until then.

2. The appointment of the trustee is subject to approval of the Commission, such approval not to be unreasonably withheld. Akzo Nobel and Hoechst shall consent to the following terms and conditions regarding the powers, duties, authorities, and responsibilities of the trustee.

3. The trustee shall have the power and authority to monitor Hoechst‘s and Akzo Nobel’s compliance with the terms of this undertaking and shall exercise such power and authority and carry out the duties and responsibilities of the trustee in a manner consistent with the purposes of this undertaking and in consultation with the Commission on the basis of written monthly reports.

4. Within ten (10) days after appointment of the trustee, Akzo Nobel and Hoechst shall execute a trust agreement that, subject to the prior approval of the Commission, confers to the trustee all the rights and powers necessary to permit the trustee to monitor their compliance with the terms of this undertaking and in a manner consistent with the purposes of this undertaking.

5. The trustee shall have full and complete access to Hoechst’s and Akzo Nobel’s personnel, books, records, documents, facilities and technical information relating to the research, development, manufacture, distribution and sale of Fertagyl.

6. […] have elapsed from the date of the approval of the concentration by the Commission, without Hoechst having entered into a binding agreement for the obligations set forth in Section II. of this undertaking, the trustee’s mandate shall be extended to carry out the additional functions set out hereunder. The above period may be extended by the Commission on the request of Hoechst and Akzo Nobel for a further maximum and non-extendable period […].

7. […] any extension of that period have elapsed from the date of the approval of the concentration by the Commission, the trustee shall have […] to accomplish the arrangements provided in section II. at a fair market price. If, however, at the end of the above period, the trustee has submitted a plan to accomplish the arrangements provided in Section II. or believes that such arrangement can be achieved within a reasonable time, the above period may be extended by the Commission. The License shall be in any event subject to the Commission’s prior approval.

8. […].

9. Hoechst and Akzo Nobel shall execute a trust agreement that, subject to the prior approval for the Commission, transfers to the trustee all rights and powers necessary to permit the trustee to effect the License as described above.

10. Hoechst and Akzo Nobel shall develop such financial or other information as the trustee may request and shall cooperate with the trustee. They shall take no action to interfere with or impede the trustee’s accomplishment of the License.

11. The trustee shall report in writing to Hoechst, Akzo Nobel and the Commission every thirty (30) days concerning the trustee’s efforts to accomplish the License.

12. Pending completion of the undertaking Akzo Nobel undertakes to use reasonable efforts to ensure that, so far as relevant, Fertagyl is maintained, pursuant to good business practices, at their current level, including that all contracts necessary to preserve it as such are continued in accordance with its terms, consistent with good business practice and the ordinary course of business.

On behalf of Akzo Nobel
19 November 1999

Signed by

7. Undertaking Related to Regumate

The undertakings set out in this letter are given by Akzo Nobel N.V. to the Commission of the European Communities pursuant to Council Regulation (EEC) No. 4064/89 of 21 December 1989 on the control of concentrations between undertakings (as amended) in the context of the proposed acquisition of Hoechst AG's animal health business including its business unit Hoechst Roussel Vet GmbH by Akzo Nobel N.V. in order to take account of concerns raised by the Commission as regards any anti-competitive effects of the proposed acquisition in relation to all the pig protestagen markets in the community.

I. Definitions

1. "Akzo Nobel" means Akzo Nobel N.V., its directors, officers, employees, agents and representatives, predecessors, successors, and assigns ; the subsidiaries, in particular its affiliate Intervet International B.V. ("Intervet"), divisions, groups and affiliates controlled by Akzo Nobel, and the respective directors, officers, employees, and assigns each.

2. "Hoechst" means Hoechst AG, its directors, officers, employees, agents and representatives, predecessors, successors, and assigns ; the subsidiaries, in particular its affiliate Hoechst Roussel Vet GmbH ("HR Vet"), divisions, groups and affiliates controlled by Hoechst, and the respective directors, officers, employees, and assigns each.

3. "Commission" means the Commission of the European Communities.

4. "License" means a license for the trademark and the Know-how for Regumate in the European Union.

5. "Supply agreement" means an agreement with the licensee for the licensee's needs with respect to the supply of Regumate.

6. "Regumate" means the corresponding pharmaceutical product marketed by HR Vet as far as its commercialisation for the treatment of pigs is concerned.

7. "Know-how" means all marketing information including all Confidential Business Information and Know-how presently owned by HR Vet which relates directly to and is necessary for a full and proper commercialization of Regumate the European Union, including without limitation information stored on management information systems, proprietary software used in connection with Regumate, and any other information and experience relating directly to and necessary for a full and proper commercialization of Regumate in the European Union.

II. Object of the undertaking

1. At fair market conditions to be negotiated between Akzo Nobel, HR Vet and the licensee, HR Vet and Akzo Nobel undertake

   (a) to license and transfer to a third party

      (aa) all Know-How that has been received or generated by HR Vet relating to the actual or proposed promotion or sale of Regumate in the European Union;

      (bb) the Regumate trademark for commercialization in the European Union;

   (b) to grant to the third party access to the registrations of Regumate in so far as is necessary for such third party to obtain marketing authorisation for Regumate in the European Union;

   (c) to enter into a supply agreement with the licensee for its needs with respect to the supply of Regumate.

2. The licensee shall be a viable third party independent from the parties and possessing the financial resources and expertise to enable it to market Regumate in active competition with Akzo Nobel. The licensee has to be approved for this purpose by the Commission.

III. Appointment of a Trustee

1. Within seven (7) working days after the adoption of the Commission decision clearing the Merger, Akzo Nobel and Hoechst will propose to the Commission a trustee, who is independent of the parties, to assure that they expeditiously perform their responsibilities as required by Section II. of this undertaking, provided the License and the registration access have not been granted and the Supply agreement not entered into until then.

2. The appointment of the trustee is subject to approval of the Commission, such approval not to be unreasonably withheld. Akzo Nobel and Hoechst shall consent to the following terms and conditions regarding the powers, duties, authorities, and responsibilities of the trustee.

3. The trustee shall have the power and authority to monitor Hoechst‘s and Akzo Nobel’s compliance with the terms of this undertaking and shall exercise such power and authority and carry out the duties and responsibilities of the trustee in a manner consistent with the purposes of this undertaking and in consultation with the Commission on the basis of written monthly reports.

4. Within ten (10) days after appointment of the trustee, Akzo Nobel and Hoechst shall execute a trust agreement that, subject to the prior approval of the Commission, confers to the trustee all the rights and powers necessary to permit the trustee to monitor their compliance with the terms of this undertaking and in a manner consistent with the purposes of this undertaking.

5. The trustee shall have full and complete access to Hoechst’s and Akzo Nobel’s personnel, books, records, documents, facilities and technical information relating to the research, development, manufacture, distribution and sale of Regumate.

6. […] have elapsed from the date of the approval of the concentration by the Commission, without Hoechst having entered into a binding agreement for the obligations set forth in Section II. of this undertaking, the trustee’s mandate shall be extended to carry out the additional functions set out hereunder. The above period may be extended by the Commission on the request of Hoechst and Akzo Nobel for a further maximum and non-extendable period […].

7. […] and any extension of that period have elapsed from the date of the approval of the concentration by the Commission, the trustee shall have […] to accomplish the arrangements provided in section II. at a fair market price. If, however, at the end of the above period, the trustee has submitted a plan to accomplish the arrangements provided in Section II. or believes that such arrangement can be achieved within a reasonable time, the above period may be extended by the Commission. The License shall be in any event subject to the Commission’s prior approval.

8. […].

9. Hoechst and Akzo Nobel shall execute a trust agreement that, subject to the prior approval for the Commission, transfers to the trustee all rights and powers necessary to permit the trustee to effect the License as described above.

10. Hoechst and Akzo Nobel shall develop such financial or other information as the trustee may request and shall cooperate with the trustee. They shall take no action to interfere with or impede the trustee’s accomplishment of the License.

11. The trustee shall report in writing to Hoechst, Akzo Nobel and the Commission every thirty (30) days concerning the trustee’s efforts to accomplish the License.

12. Pending completion of the undertakings, Akzo Nobel undertakes to use reasonable efforts to ensure that, so far as relevant, Regumate is maintained, pursuant to good business practices, at their current

level, including that all contracts necessary to preserve it as such are continued in accordance with their terms, consistent with good business practice and the ordinary course of business.

On behalf of Akzo Nobel
19 November 1999

Signed by